REMARKS

1. Information Disclosure Statement:

The IDS filed failed to comply with 37 CFR 1.98(a). In response, another copy of the PTO-1449 formed that was filed with the IDS on 10/27/2003, is submitted.

2. Claim Rejections 35 USC § 103 (a):

Claims 1-17 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Otten et al. (U.S. Patent No. 6,821,211) in view of Ogawa et al. (U.S. Patent No. 4,451,043). According to the Examiner, Otten et al. discloses all of the claims limitations recited in Claims 1-17 and 20 except for the exact location of the sensors, the use of a polycarbonite lens, the use of a rubber mat over the infrared sensor base, the type of information calculated and displayed to the user, and the combined use of ultrasonic and infrared sensors in analyzing the golf swing with the infrared sensors arrays automatically activating the ultrasonic sensors. According to the Examiner, it would have been obvious to replace the infrared sensor base with an ultrasonic sensor base because infrared sensor arrays are relatively expensive and may be inaccurate in certain ambient light conditions.

Claims 15-19 were rejected under 35 USC 103(c) as being unpatentable over Otten et al. in view of Ogawa et al. (U.S. Patent No: 4,451,043) and McDevitt (U.S. Patent No: 6,500,075). According to the Examiner, Otten et al. and Ogawa et al. disclose the identical invention except for the stance base with two hinged boxes. According to the Examiner, it would have been obvious to one of ordinary skill in the art to adapt McDevitt's system to the systems taught by Otten et al. and Ogawa et al. to allow proper alignment of the golfer with the target line.

In response, the Applicant transverses the rejection on Claims 1-20 on the grounds

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that the combined references do not disclose all of the claim limitations and, therefore a prima facia case of obviousness has not been presented.

Applicant's application discloses an electronic golf swing analyzing system that uses one of two symmetrical arrays of infrared (IR) and a pair of ultrasonic (US) sensors to capture a standard golf club's swing data. The data is processed by a golf swing analyzing software application which determines the distance and direction the golf ball will travel when hit. There are two arrays of IR sensors and two US sensors located on opposite sides of the center axis of the sensor base. During operation, only one array of IR sensors (on one side of the ball to impact) is used to measure club head velocity and club head angle. Both US sensors are used to measure club head swing path angle. Symmetrical arrays of both IR and US sensors are provided so that the system may be used by both right handed and left handed golfers.

When a golf club is swung over the IR sensor base, only the three IR sensors in the single IR array and the first US sensor (aligned with the outer IR sensor on the same side of the ball ahead of impact) is activated so that swing data is collected before the ball is hit. In order to accurately record the swing data, the timing of the activation of the IR and the US sensor in front of the golf ball must be accurately coordinated by the software program. The second US sensor (on the opposite, non-impact side of the ball) us activated based on the club head velocity captured by the array of activated IR sensors, the ambient temperature (which determines the speed of sound), and the cross-sectional profile width of the selected club. The software program then processes the data from these sensors to determine the club velocity, face angle, and swing path.

Otten et al. provides similar information but uses IR sensors located on both sides of

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the golf ball. To insure that IR sensors detect the golf club movement, special reflective tape must be attached to the bottom surface of the golf club. Applicant's invention which incorporates a lens to direct infrared light to the photo-diode's active area, IR filters to limit light that passes through the lens to a certain wave length, electronic circuitry that responds only to pulsing IR light does not require reflective tape attached to the club. The first and second arrays are mounted in rows in front of the ball prior to impact. The third array of IR sensors is aligned in a row located behind the ball opposite the first and second arrays. The fourth array of IR sensors is located around the ball. During use, all four arrays are used to determine the club speed, the face angle, and the swing path. A fifth and sixth arrays of IR sensors are mounted on two towers on opposite sides of the housing and used to determine club head loft angle.

On Column 4, lines 8-17, the Examiner noted that Otten et al. stated that the IR arrays can be arranged in any number of configurations. In order to operated, the IR arrays must be arranged so that the golf club passes over the IR sensors located on opposite side of the ball and within the club's swing path. If the club's swing path with the reflective tape does not pass over the IR arrays located on opposite sides of the ball, the speed, swing path and face angle of the club head at impact can not be calculated. Because Applicant's system uses only one activated IR array, it is not dependent on the location of a second IR array.

It is important for the Examiner to understand the reason why the IR sensors in Otten et al must be arranged in rows that intersect the swing path is because the system uses the precise timing of the movement of the reflective type over the four arrays to determine the club's speed head and angle of the club's swing path angle (see Col. 4, lines 30-54). As the golf club is swung, the golf club passes over IR sensors in the first and second arrays. After

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the ball is struck, the golf club continues to travel over the third array. The amount of time that elapses between the activation of the first and second arrays and the third array (as a function of the width of the reflective tape) is used to determine club speed head.

In Applicant's system, the speed of the golf club head is measured by IR sensors in the array located in front of the ball. Applicant's system is more accurate because the impact on the golf club against the ball (which significantly slows down the speed of the club as energy is transferred to the golf ball) and does not effect the club head speed calculation. As a result, the club head speed measured with Applicant's system is more accurate.

On page 2, lines 3-7, the Applicant stated two drawbacks regarding golf training devices found in the prior art that use only IR sensors. The Applicant submits that he was the first to discover these drawbacks and that no evidence has been presented that these drawback were known to others. Therefore, using the Applicant's comments as the basis for finding of obviousness is merely hindsight reasoning and long held to be improper. Absent any outside evidence that supports the belief that an ordinary individual would have known these drawbacks, no rational reasoning exists for using ultrasonic sensors in place of IR sensors.

For all of these reasons, the Examiner's rejection of Claims 1-20 is improper and should be withdrawn. Notice of Allowance is warranted.

Respectfully submitted,

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